



Peer-review using AI

Ina Smith

17 Sept 2025

Disclaimer

The content and ideas shared with you are experimental and do not represent any official policy.



OpenAI

Gemini

Google

 **Claude**

Anthropic

 **Poe**

Quora

 **Copilot**

Microsoft

<https://blog.doaj.org/2025/09/16/help-or-hindrance-peer-review-in-the-age-of-ai/>

Help or hindrance? Peer review in the age of AI

16/09/2025

*As we recognise Peer Review Week 2025 (15-19 September), **Head of Editorial Matt Hodgkinson** speaks to this year's theme, 'Rethinking Peer Review in the AI Era' and how artificial intelligence is beginning to reshape peer review and the wider scholarly publishing landscape.*

There's something about automated tools, and in particular generative artificial intelligence (AI), that makes people turn off their critical thinking. When ChatGPT was first released in late 2022, there was a flurry of scholarly articles published with the tool listed as an author despite tools clearly lacking the ability to take responsibility for any of their outputs. Thankfully, sanity was restored and a rapid consensus formed that automated tools cannot be authors.

DOAJ position

- AI **can help** with peer review, but it often switches off human **critical judgment**. Early misuses (like listing tools as authors) showed why accountability matters
- DOAJ recently rejected a journal that used a proprietary, “black-box” AI to pick **reviewers with no human oversight** - an ethical red flag
- Evidence suggests AI can **broaden reviewer pools but makes mistakes** (especially outside STEM) and can even hallucinate reviewers; therefore, humans must validate selections
- Mass, automated reviewer invitations worsen **reviewer fatigue**; editors should invite fewer, better-matched reviewers and screen suggestions
- DOAJ is updating its application guide to require **clear AI policies**
- These guardrails align with COPE/STM/WAME and aim to enable **careful experimentation without sacrificing ethics**

DOAJ recommendation re an AI policy



Authors must disclose use besides spelling, grammar checking, or the like.



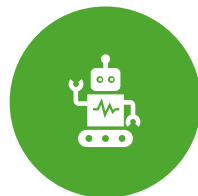
Authors must take responsibility for the output of tools.



Tools cannot be authors.



Generative AI must not be cited.



Reviewers should not use generative AI to write their reports.



The journal should disclose its use of tools, validate them, and have people check their results.

Publisher / Journal	What their policy says about AI / LLM / Generative AI use by authors	What they say about use by reviewers / editors / peer review process
Elsevier	Authors may use generative AI / AI-assisted tools to aid manuscript preparation (language polishing, organizing etc.), but must apply human oversight; AI must not be a substitute for human reasoning. Authors must disclose use via a "Declaration of Generative AI and AI-assisted technologies in the writing process." www.elsevier.com	Reviewers are not permitted to upload submitted manuscripts or parts of them into generative AI tools (for confidentiality / privacy). Reviewers should not use AI tools to substitute for scientific review (critical thinking). Editors similarly have limitations. www.elsevier.com
SAGE Publications	Generative AI tools usage by authors must be disclosed. AI that produces text, images, any content needs disclosure upon submission. Must cite original sources; AI cannot be listed as an author. SAGE Publishing	Reviewers may use AI to improve the language of their review, but remain responsible for content. However, inappropriate use (e.g. AI-generated substantive review report without human critical input) leads to rejection of that reviewer's report or loss of invitation. Editors must not use AI for decision letters or summaries of unpublished research. SAGE Publishing
Taylor & Francis	Authors are allowed to use generative AI for certain tasks (idea exploration, language improvement, classification, coding assistance etc.), with oversight. They must disclose tool name, version, how used, and reason. AI tools must not be listed as authors. Taylor & Francis	Editors and peer reviewers are not allowed to upload unpublished manuscripts / their content (text, images etc.) into generative AI systems. Confidentiality & data privacy are key constraints. Taylor & Francis
Nature / Springer Nature	Nature Portfolio journals allow AI tools in generating <i>accessory content</i> (e.g. summary points, editorial glossaries etc.), which must be edited/fact-checked by humans; substantive AI use must be declared. Authors should not list AI tools as authors. Nature	Peer reviewers are asked not to upload manuscripts to generative AI tools. If a reviewer uses an AI tool in evaluating claims etc., they should declare that use in the review report. Editors likewise must maintain standards. Nature

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Guest Post — Is It Enough to Say a Journal Is 'Peer Reviewed'? The Case for Rating Journals Based on Peer Review Quality

By ASHUTOSH GHILDIYAL, GARETH DYKE | SEP 16, 2025 | 0 COMMENTS | TIME TO READ: 6 MINS

METRICS AND ANALYTICS | PEER REVIEW | RESEARCH | RESEARCH INTEGRITY

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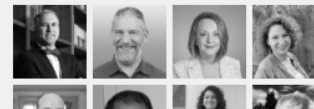
Editor's Note: Today's post is by Gareth Dyke, Academic Director at ReviewerCredits, Sales Director at 4Evolution, and co-founder of Sci-Train., and Ashotosh Ghildiyal, Vice President of Growth & Strategy at Integra.

Jeff Bezos once shared a valuable perspective: people frequently ask him what will change in the next 10 years, but rarely what will stay the same. He argued that understanding those things that will remain constant over time is often far more important than trying to predict what will change. This 'Bezos Approach' allows

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THE CHEFS



<https://scholarlykitchen.sspnet.org/2025/09/16/guest-post-is-it-enough-to-say-a-journal-is-peer-reviewed-the-case-for-rating-journals-based-on-peer-review-quality/>

"At the same time, [AI is reshaping the peer review landscape](#). While artificial intelligence can enhance efficiency and flag potential issues that human reviewers might miss, it also raises serious concerns about preserving the critical judgment, nuance, and human expertise that robust evaluation demands. This convergence of systemic vulnerabilities and rapid technological change prompts a fundamental question: How can we ensure that peer review remains a genuine, trustworthy foundation for scholarly publishing?"

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Ask the Chefs: What's a Bold Experiment with AI in Peer Review You'd Like to See Tested?

By MARYAM SAYAB, TIM VINES, HASEEB IRFANULLAH, HONG ZHOU, ALICE MEADOWS | SEP 15, 2025 | 6 COMMENTS | TIME TO READ: 6 MINS

[ARTIFICIAL INTELLIGENCE](#) | [AUTHORITY](#) | [AUTHORS](#) | [CONTROVERSIAL TOPICS](#) | [EXPERIMENTATION](#) | [PEER REVIEW](#) | [RESEARCH INTEGRITY](#) | [TECHNOLOGY](#) | [TOOLS](#) | [WORLD OF TOMORROW](#)

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Each year during [Peer Review Week](#), we invite the Chefs to reflect on the most important questions facing our community. This year's theme, [Rethinking Peer Review in the AI Era](#), asks us to move beyond speculation and to consider how artificial intelligence is already reshaping peer review.

The question we posed to the Chefs was simple but ambitious: **What's a bold experiment with AI in peer review you'd like to see tested?**

Their responses range from bold thought experiments to critiques of the current system, and from challenges about equity to ideas for collaborative human-AI models. Together, they reveal just how wide the spectrum

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<https://scholarlykitchen.sspnet.org/2025/09/15/ask-the-chefs-whats-a-bold-experiment-with-ai-in-peer-review-you-d-like-to-see-tested/>

Peer Review in the Era of AI: Risks, Rewards, and Responsibilities

By **HONG ZHOU** | SEP 17, 2025 | **0 COMMENTS** | TIME TO READ: 8 MINS

ARTIFICIAL INTELLIGENCE | **PEER REVIEW** | **RESEARCH** | **RESEARCH INTEGRITY** | **TECHNOLOGY** | **WORLD OF TOMORROW**

The future of peer review isn't about choosing between humans and AI, or between speed and quality, but about **combining the strengths of both to enable speed with quality, to ensure quality, ethics, and trust in the scholarly record.**

<https://scholarlykitchen.sspnet.org/2025/09/17/peer-review-in-the-era-of-ai-risks-rewards-and-responsibilities/>

Reviewers increasingly divided on the use of generative AI in peer review

10 Sep 2025 by Faye Holst



Peer Review and AI - Insights from the global reviewer community

A [new global reviewer survey](#) from IOP Publishing (IOPP) reveals a growing

Press release: [Reviewers increasingly divided on the use of generative AI in peer review - IOP Publishing](#)

The full survey results: [AI and Peer Review 2025: Insights from the global reviewer community - IOP Publishing](#)

- 41% of respondents now believe generative AI will have a positive impact on peer review (up 12% from 2024), while 37% see it as negative (up 2%). Only 22% are neutral or unsure - down from 36% last year - indicating growing polarisation in views.
- 32% of researchers have already used AI tools to support them with their reviews.
- 57% would be unhappy if a reviewer used generative AI to *write* a peer review report on a manuscript they had co-authored and 42% would be unhappy if AI were used to *augment* a peer review report.
- 42% believe they could accurately detect an AI-written peer review report on a manuscript they had co-authored.

Notable Tools & Prototypes


Name	What it does
OpenReviewer	A large-language-model (LLM) fine-tuned on many expert reviews; takes a manuscript (PDF + template) and produces structured review comments. arXiv
MMReview	A benchmark across many disciplines and modalities (figures, tables etc.) for evaluating how well LLMs do peer review tasks. Useful for comparing models' review-quality. arXiv
CycleResearcher / CycleReviewer	Research and review agents: system that does literature review, manuscript preparation, peer review and revisions (simulated) via reinforcement learning; CycleReviewer simulates peer review. arXiv
Review-it.ai	Tool that highlights clarity issues, suggests edits: helps improve manuscript before or during peer review. review-it.ai
Journal Article Peer Review Assistant (JAPRA)	Mentioned among tools that help reviewers generate or structure review reports. Enago
Consensus AI	Another tool listed among "AI tools for peer reviewers." Helps with retrieving consensus information, perhaps literature support, etc. Enago
Enago Read	Also from that list: helps reviewers in checking manuscripts, likely for language or clarity or structure. Enago
Taskade AI Peer Review Generator	A tool to generate first drafts or scaffolding of peer review comments. Enago

Key functions/use-cases

- Generating **draft reviews or parts of reviews** (summary, critique)
- Identifying **clarity/language issues, grammar, style**
- Checking for **ethical / integrity problems** (plagiarism, image manipulation, data anomalies) sometimes as pre-screening
- Helping **less experienced reviewers** with structure, language, or templates for writing reviews
- Providing **benchmarks** for evaluating how well AI or automatic systems perform in peer review tasks





Limitations/ethical concerns

- **Quality & depth:** AI reviews may miss subtle scientific/technical issues, may be overly positive or too generic. Human oversight still essential. For example, *OpenReviewer* is said *not* to replace human review
- **Transparency/disclosure:** use of AI by reviewers or authors needs to be **disclosed** in many journals' policies
- **Bias & reliability:** models may reflect **bias**, may be **inconsistent**, may be vulnerable to adversarial inputs (prompt injection etc.)
- **Confidentiality:** Manuscripts under review are often confidential; using AI tools requires careful consideration of **privacy, data security**
- **Trust & acceptance:** Some in the scholarly community are wary of AI “shortcutting” peer review; concerns about losing critical evaluation



Demo: **AI peer-review of an already published article**
(article has passed human peer-review, editor approval)

Journal peer-review criteria in txt (Notepad)

File Edit View H1   **B** *I*  

Peer Review Checklist – Scholarly Journal

You are acting as a peer reviewer for a scholarly journal.
Evaluate the manuscript according to the following questions. For each, indicate whether the answer is Yes / No / Partially / Unclear, and then provide general comments or recommendations.

1. Originality
Does the manuscript represent an original contribution to current scientific knowledge of the principles or the application of principles governing the functioning of animals and their relationship to the physical or social environment?

2. Introduction & Hypothesis
Does the introduction indicate the status of current knowledge and motivate why the study was done? Is there a clear hypothesis?

3. Objectives
Are the objectives of the study clearly defined?

4. Experimental Design
Is the experimental design appropriate to resolve the stated objectives of the study?

5. Techniques & Detail
Are the experimental techniques appropriate to resolve the objectives, and are full details provided?

6. Ethics
Is the study acceptable from an ethical point of view, and is this clearly stated in the text?

7. Results Presentation
Are the results presented in an unbiased, clear, concise, and complete manner?

8. Tables & Figures
Are all tables/figures necessary? Do figures duplicate data in tables?

9. Discussion – Interpretation
Is the discussion relevant and adequate for interpreting the results, without becoming speculative?

10. Discussion – Context
Does the discussion place the results in the context of existing literature, without losing focus on these results?

11. Conclusions
Do the results and discussion justify the conclusions drawn from the work?

Output format:
For each criterion, provide:
- Rating: Yes / No / Partially / Unclear
- General comments/recommendations

At the end, provide an overall recommendation: Accept / Minor Revision / Major Revision / Reject.

Published manuscript in pdf (following human peer-review)

Effects of grapefruit juice supplementation on the performance, egg quality, and blood biochemistry of late-phase laying hens

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Abstract

This study investigated the effects of grapefruit juice supplementation on the performance, egg quality, and blood biochemistry of late-phase laying hens. A total of 144 Babcock White laying hens, aged 62 weeks and weighing 1603.05 ± 14.33 g, were divided into six groups. Each group was further divided into four replicates containing six hens each. Grapefruit juice was added to the hens' drinking water at concentrations of 0% (control), 0.25%, 0.50%, 1.0%, 2.5%, and 5.0% for four weeks. Grapefruit juice supplementation positively affected hen-day egg production and egg mass, but did not affect body weight, feed consumption, feed conversion ratio, or egg weight. The water consumption of the 5.0% group was higher than that of the other groups. Although grapefruit juice supplementation increased the Haugh unit, albumen index, and yolk index values, it decreased the eggshell thickness and egg yolk colour values. Serum glucose levels were lower in the 1.0% and 2.5% groups (134.83 mg/dL and 148.16 mg/dL, respectively) than in the control group (186 mg/dL), and serum immunoglobulin G levels were higher in the 1.0% and 2.5% groups than in the other groups. While the grapefruit juice supplementation increased the total antioxidant capacity of the hens, it reduced their gamma-glutamyl transferase values. No differences were observed between the groups in terms of high-density lipoprotein, low-density lipoprotein, cholesterol, alanine aminotransferase, alkaline phosphatase, or total oxidant status values. The results indicate that providing grapefruit juice to laying hens improves their performance, egg quality, and metabolism, depending on dose.

Keywords: citrus, egg yield, egg quality, Haugh unit, immune system

[✉]Corresponding author: muhammetemreorman@gmail.com

Introduction

In modern laying-hen nutrition, the integration of natural and functional additives into animal diets is increasingly regarded as a sustainable approach to enhancing productivity, maintaining egg quality, and supporting animal health. The global ban on the use of antibiotic growth promoters is the main reason for the intensified interest in plant-based alternatives with bioactive properties (Aminullah *et al.*, 2025). However, the increasing concern of consumers about animal welfare, as well as the rearing

Methodology: ChatGPT 5 Thinking (paid-for version): New Chat >> Thinking (ChatGPT 5) >> Uploaded above 2 files



Ozcinar+et+al.+2025.+Effects+of+gra...
PDF



PeerReviewChecklist.txt
Document

Review the article attached using the peer-review criteria attached.

Thought for 1m 25s

Here's a structured peer-review using your attached checklist, applied to the manuscript "Effects of grapefruit juice supplementation on the performance, egg quality, and blood biochemistry of late-phase laying hens."

Ozcinar+et+al.+2025.+Effects+of...

PeerReviewChecklist

Peer-review report

1) Originality

Rating: Yes

Comments: Examines grapefruit juice (GJ) in drinking water across six doses in late-phase layers. Citrus/flavonoid work in poultry exists, but whole grapefruit juice in layers appears less explored; the dose-response design is a useful addition.

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2) Introduction & Hypothesis

Rating: Partially

Comments: The introduction motivates plant-based additives and grapefruit bioactives well, but a **clear, testable a priori hypothesis** is not explicitly stated (e.g., "We hypothesize that GJ at 0.5–2.5% will increase egg mass via X mechanism"). Please add an explicit hypothesis linked to primary outcomes.

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3) Objectives

Rating: Yes

Comments: Objectives to evaluate performance, egg quality, and serology under varying GJ concentrations are plainly stated. Consider designating *primary* vs *secondary* endpoints.

4) Experimental Design

Rating: Partially

Comments: Strengths: six treatment levels, four replicates of six hens each (n=24/treatment for production), four-week trial. Areas to strengthen:



- **Randomization/blinding** procedures are not described.

5) Techniques & Detail

Rating: Partially

Comments: Diet composition and many measurement methods are documented (Haugh unit, yolk color fan; ELISA analyzer listed for biochemistry). Missing/unclear items: environmental conditions (temperature, humidity, cage specs), health/vaccination status, mortality/attrition, and **assay specifics** (kits, calibrators, QC). Consider adding a **flavonoid profile** (naringin/naringenin/hesperidin) of the juice, water pH, and a brief **power analysis**.

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6) Ethics

Rating: Partially

Comments: Ethics approval number is provided. Blood was collected by **cardiac puncture**; however, there is **no mention of anesthesia/sedation or euthanasia status** at sampling. Please clarify analgesia/anaesthesia, humane endpoints, and whether birds were euthanized for terminal sampling.

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7) Results Presentation

Rating: Partially

Comments: Tables are clear overall, but there are **data/format inconsistencies** that must be corrected before conclusions can be trusted:

- **FCR values** in Table 3 are implausible (e.g., 0.05, 0.03). With ~110 g feed and ~55 g egg mass per hen/day, FCR should be around ~2.0 (g/g), not <1.0.
- In Table 5, total cholesterol for 0.25% GJ appears as "10.9 mg/dL" (likely 110.9), and the **ALP** column header seems truncated ("LP").
- State the **post-hoc** test used for multiple comparisons, and whether normality/homoscedasticity were checked.

Please audit the tables and revise. These issues materially affect interpretation.

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8) Tables & Figures

Rating: Yes

Comments: All tables are relevant. Optional: a **dose–response plot** for key outcomes (egg mass, Haugh unit, glucose, TAC/IgG) would aid readers. Ensure consistent significant-letter superscripts and units.

9) Discussion – Interpretation

Rating: Partially

Comments: Interpretation generally aligns with trends (↑ egg production/mass; ↑ HU/albumen/yolk indices; ↓ glucose; ↑ TAC/IgG). However:

- Mechanistic links invoking **estrogen/CYP3A4** are **speculative** without hormone data; please soften or add supporting measurements.
- **Eggshell thickness decreased** across GJ groups; discuss potential trade-offs (production vs shell quality) and practical implications for breakage.
- Increased **water consumption** at 5% could be a mediator; discuss palatability and whether matching-flavor controls were considered.

10) Discussion – Context

Rating: Yes

Comments: Literature is appropriately cited (citrus flavonoids, tea polyphenols, lemon juice in layers). Consider comparing magnitude of effects to prior citrus/naringin studies and clarifying where your results diverge (e.g., yolk color, FCR).

11) Conclusions

Rating: Partially

Comments: The conclusion that GJ “improves performance, egg quality, and metabolism” should be **tempered** given: (a) eggshell thickness reductions; (b) short duration (4 weeks, late phase only); (c) data inconsistencies noted; and (d) lack of hormone or flavonoid exposure data. Recommend reframing to emphasize **dose-dependent benefits with caveats** a ↓ the need for further controlled work.

Specific, actionable recommendations

1. **Correct data/formatting errors** in Tables 3 and 5 (FCR magnitudes; CHO units/values; ALP header) and add the **post-hoc test** and **assumption checks** used in GLM.
2. Add an **explicit hypothesis** in the Introduction, designate **primary endpoints**, and include a brief **power calculation**.
3. Expand **Methods**: randomization/blinding; housing/environment; mortality; assay kits and QC; water pH/°Brix; sanitation; **daily intake estimates of actives** or at least a **flavonoid profile** of the juice.
4. **Ethics**: clarify anesthesia/analgesia for cardiac puncture and humane endpoints.
5. **Statistics**: consider a **mixed/repeated-measures model** (week as repeated factor; cage as random) for longitudinal outcomes.
6. **Temper mechanistic claims** (e.g., estrogenic effects) unless hormone data are added; discuss the **shell thickness trade-off** explicitly for producers.
7. Optional but valuable: add **dose–response figures** for key endpoints and a **graphical abstract**.

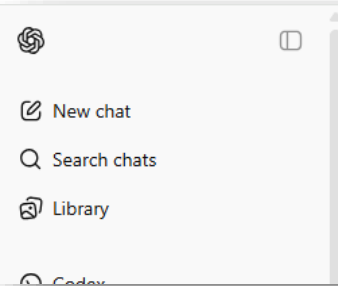
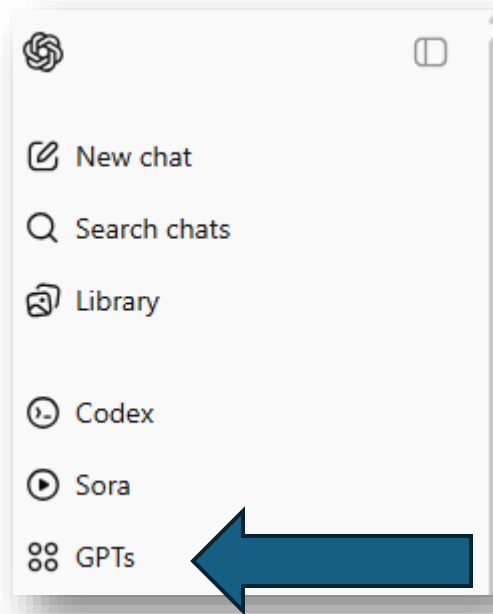
Overall recommendation

Major Revision

Rationale: The study is potentially publishable and of interest, but **table/data inconsistencies, incomplete methodological/ethical details, and over-interpretation** of mechanisms must be addressed to ensure reliability and clarity.



Demo: **Creating a custom model using ChatGPT 5**



Explore GPTs

My GPTs

+ Create

GPTs

Discover and create custom versions of ChatGPT that combine instructions, extra knowledge, and any combination of skills.

New GPT

Draft

CreateConfigure

Name

Name your GPT

Description

Add a short description about what this GPT does

Instructions

What does this GPT do? How does it behave? What should it avoid doing?

Conversations with your GPT can potentially include part or all of the instructions provided.

Conversation starters

Knowledge

Conversations with your GPT can potentially reveal part or all of the files uploaded.

Upload files

Recommended Model

Recommend a model to the user, which should be used by default for best results.

No Recommended Model - Users will use any model they prefer

NJLLCS Review Form

Live · Anyone with a link

CreateConfigure

Name

NJLLCS Review Form

Description

Add a short description about what this GPT does

Instructions

Role: Editorial Review Assistant for [Journal]. Assess a new manuscript strictly against the journal's "New Article Review Form" criteria; keep all content confidential; do not browse the web or rewrite. Output a concise author report plus brief confidential notes.

1) Intake: title; manuscript ID (if any); submission type; field.
2) Rate each item E/VG/G/F/P with a 1–2 sentence justification based on the manuscript:
- Title

Conversations with your GPT can potentially include part or all of the instructions provided.

Conversation starters

Knowledge

Conversations with your GPT can potentially reveal part or all of the files uploaded.

New Article Review Form...

Document

Upload files

Recommended Model

Should we not start considering developing closed AI models to assist with peer-review before publication?

Isn't it time that we make our anonymised peer-review reports publicly available?

Don't users have a right to be aware of flaws in published articles?

RESEARCH ARTICLE

A structural–functional diagnostic of Mpumalanga’s agricultural education and training system

Tim Fry, Aldo Stroebel, Sarah Cardey

 PDF

 EPUB

 XML

 PEER REVIEW HISTORY

https://sajs.co.za/

The *South African Journal of Science* follows a double-anonymous peer review model but encourages Reviewers and Authors to publish their anonymised review reports and response letters, respectively, as supplementary files after manuscript review and acceptance. For more information, see [Publishing peer review reports](#).

Peer review history for:

Fry T, Stroebel A, Cardey S. A structural–functional diagnostic of Mpumalanga’s agricultural education and training system. *S Afr J Sci.* 2025;121(7/8), Art. #18996. <https://doi.org/10.17159/sajs.2025/18996>

HOW TO CITE:

A structural–functional diagnostic of Mpumalanga’s agricultural education and training system [peer review history]. *S Afr J Sci.* 2025;121(7/8), Art. #18996. <https://doi.org/10.17159/sajs.2025/18996/peerreview>

Reviewer 1: Round 1

Date completed: 29 November 2024

Recommendation: Accept / Revisions required / Resubmit for review / Resubmit elsewhere / Decline / See comments

Conflicts of interest: None

With regard to our policy on ‘Publishing peer review reports’, do you give us permission to publish your anonymised peer review report alongside the authors’ response, as a supplementary file to the published article? Publication is voluntary and only with permission from both yourself and the author.

Yes/No

Comments to the Author:

Scope

- The topic and language usage used throughout the publication is appropriate for the journal, and clearly suited for the journal’s readership.

Content

- This article provides innovative and significantly contribute to the existing and required knowledge in the Agriculture Knowledge Innovation Systems (AKIS) domain in South Africa, but also more broadly continentally and globally.
- In the South African context, it contributes directly to the current debate and process to pilot an “adapted land-grant model” in Mpumalanga province.
- This flows from a 2017 ASSAf consensus study to “Revitalising Agricultural Education and Training in SA” refer to: <https://research.assaf.org.za/items/d5262a87-a2d6-4ab5-bdad-78475660b950>

Some of the key findings of the consensus study include inadequate funding for practical-level training; weak linkages to industry for understanding training needs; poor quality and inadequate numbers of educators who are appropriately trained to teach agriculture; and poor linkages in the research–teaching–extension nexus. The recommendations are wide-ranging and very practical. It is hoped that they will be used to influence policymakers and thereby result in an improvement in the quality of AET in South Africa.

ASSAf, the Agricultural Research Council (ARC) and the NRF approved seed funding to initiate a pilot towards addressing a more coherent approach as articulated in the consensus report recommendations.

The abstract and significance is clearly articulated and provide adequate insight and a rationale for the study’s purpose. The literature review outlined in the structural-functional framework draw on a framework that incorporates diverse centres of tacit and codified knowledge while being able to elucidate stakeholder-specific constraints and opportunities. Building on methodological frameworks developed in diagnostic AIS work, this structural-functional framework enables the mapping of AIS structures to provide a basis from which to identify elements that cause weakness or deficiencies in AIS functions of the specific

Peer-review defined

Peer review is the **independent evaluation** of scholarly work by **qualified experts** (peers not involved in the study) to **judge its validity, originality, significance, clarity** and **ethical/methodological soundness**, and to inform editorial or funding decisions. Its purpose includes **quality assurance, error detection**, and **improvement** through **constructive feedback**.

Types of peer review on the DOAJ application form

1 Editorial review

This means that the peer review is only conducted by members from the editorial team, with no external reviewers. This type of peer review is only accepted for arts and humanities journals.



2 Peer review

This means that the author(s), editor and peer reviewers all know the identity of each other. The peer review is confined to only these people.



3 Anonymous peer review

This means that the author(s) do not know the identity of the peer reviewers, but the peer reviewers and the editors know the identity of the authors.



4 Double anonymous peer review

In this type of review, neither the author(s) nor the peer reviewers know each other's identity. The editor(s) knows everyone's identities, and will remove any identifiable information for both the author(s) and the peer reviewers.



5 Post-publication peer review

Instead of doing the review before publication, the journal provides a platform to enable the review to be done in public, with the community acting as peer reviewers. Anyone can make comments on the article published, and identities are not hidden.



6 Open peer review

A peer review can be 'open' in several ways with a focus on transparency, for example through publishing the peer review open, the authors, editors and peer reviewers having an open discussion, open peer review via preprints before publication.



7 Other

Any other type of peer review that does not fit the definitions of the other categories.



Challenges in managing peer-review

Recruitment, availability of expert reviewers

Lack of quality, consistency in peer-review

Reviewer bias & conflicts of interest

Timeliness, delays

Technology, workflow issues

Ethical, integrity concerns

Lack of recognition, motivation

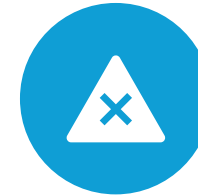
Solutions for challenges



Recruitment and availability of reviewers: databases (African Scientists Directory, ORCID), training, mentoring



Quality and consistency of reviews: reviewer guidelines, review form



Bias and conflicts of interest: conflict-of-interest declarations



Timeliness and delays: incentives for timely reviews



Technology and workflow issues: OJS, automation, training



Ethical and integrity concerns: ORCIDs, commitment to confidentiality and responsible use of unpublished work



Recognition and motivation: link to ORCID, reviewer certificates or annual acknowledgments (list), explore financial or non-financial incentives (discounts on APCs, professional development points), Publons, Reviewer Credits



<https://hdl.handle.net/20.500.11911/418>

ASSAf Statement on the Recognition of the Work of Editors and Peer Reviewers of Academic Journals and Books in South Africa

Date: 29 October 2024

Creating a custom AI model to assist with peer-review



Use with caution



Custom ChatGPT can be configured to follow specific review criteria (e.g., scientific rigor, methodology, ethics, referencing) and generate structured reports



AI cannot yet fully replace expert judgment, critical domain knowledge, or nuanced ethical decision-making



Use as a **support tool** to assist human reviewers, not to replace them

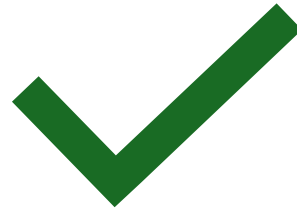


Safest option for journals handling sensitive peer review content to run model on own server/laptops

Policy on the ethical use of Artificial Intelligence (AI) in peer-review



Standalone policy on journal website



Clause in reviewer guidelines

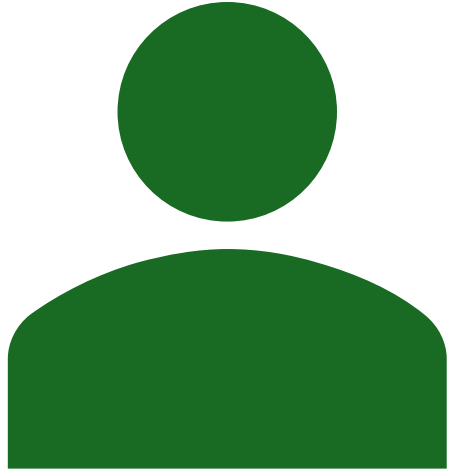


Require reviewers to adhere to policy when conducting peer-review

Example AI peer-review policy

Unpublished manuscripts are confidential and may not be uploaded to public AI tools. If AI is used, it must be secure (enterprise-licensed or locally hosted) and serve only as support for human reviewers and editors. Acceptable uses include checking completeness, plagiarism screening, clarity, or ethical concerns. Reviewers remain fully responsible for their reports and must disclose AI use, ensuring all outputs are critically assessed. Editors will apply the same rigor to AI-assisted reviews as traditional ones, and authors will be informed transparently. The journal is committed to confidentiality, integrity, and fairness in all publishing practices.

When to use AI reviewer model/tool



Published Article
Open AI Model

Reader/Researcher – check quality of **published** article

Funder/prospective employer/profiler – assess quality of research by individual

As an **editor** – doing desktop review, prior human peer-review – upload AI report in journal system for future reference

As an **editor** – additional option following review by human reviewers - upload AI report in journal system for future reference

As an **editor** - to review the reviews conducted by reviewers - upload AI report in journal system for future reference

Author – share AI search link as part of Methodology. Share full AI response as file when submitting manuscript

Unpublished Article
Closed AI Model



Self-hosted AI models for use as a peer-review tool



Power + flexibility (server or strong workstation):
→ **LLaMA 3–70B** via Ollama or HuggingFace



Efficiency + laptop deployment:
→ **Mistral-7B or Phi-3 14B** via Ollama



Easiest no-tech setup:
→ **GPT4All** (desktop app)

Your Private and Local AI Chatbot

Privacy first

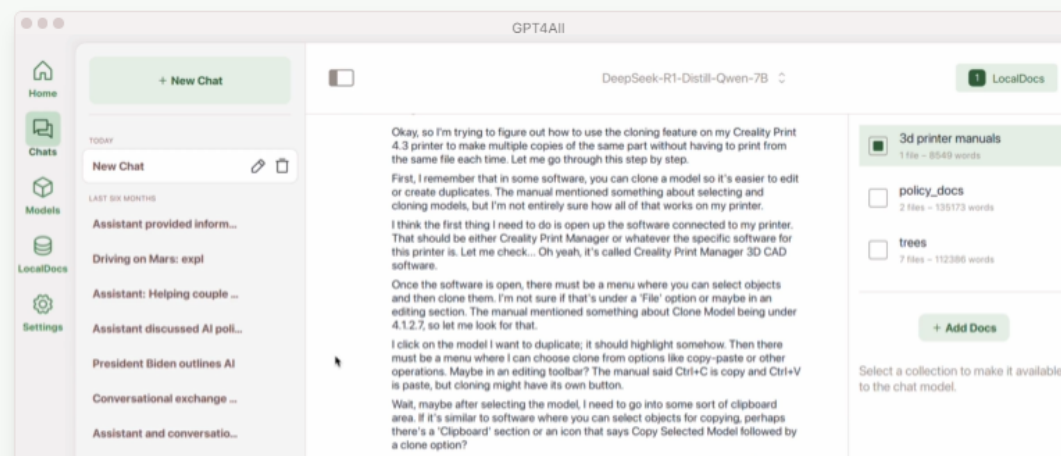
No internet required

New: Get a demo of the production-ready Nomic AI platform

Download for Windows



Try the Nomic Platform



<https://www.nomic.ai/gpt4all>

Conclusion/ recommendation

1

AI model can be used with great success as an **additional tool** to human peer-reviewers.

2

When using an AI model for peer-review of **unpublished** manuscripts, it should be **closed and on a local device/laptop/server** and not in the cloud/not a public AI model.

3

Critical insight/engagement from human editor of AI review still required, when making (final) decisions.

